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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Andrew W. Buffmire

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EXAMINER

HASHEM, LISA

ART UNIT

PAPER NUMBER

2614

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/932,870	Applicant(s) BUFFMIRE ET AL.	
	Examiner LISA HASHEM	Art Unit 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-15 in the RCE filed on 10-17-08 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 1 recites the limitation "the intrinsic material" in line 3. There is insufficient antecedent basis for this limitation in the claim.
4. Claim 1 recites the limitation "the pavement material" in line 9. There is insufficient antecedent basis for this limitation in the claim.
5. Claim 1 recites the limitation "the intrinsic pavement material" in 10. There is insufficient antecedent basis for this limitation in the claim.
6. Claim 6 recites the limitation "the intrinsic material" in line 2. There is insufficient antecedent basis for this limitation in the claim.
7. Claim 6 recites the limitation "said pavement material" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.
8. Claim 6 recites the limitation "the pavement" in line 6. There is insufficient antecedent basis for this limitation in the claim.
9. Claim 6 recites the limitation "the pavement material" in line 8. There is insufficient antecedent basis for this limitation in the claim.

Art Unit: 2614

10. Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The terms “first transmitter/receiver” in line 4 of claim 1 and “second transmitter/receiver” in line 6 of claim 1 is used by the claim to mean “and”, while the accepted meaning is “either ‘and’ or ‘or’”. The term is indefinite because the specification does not clearly redefine the term.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

12. Claims 1-15 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Pat. No. 6,509,843 by Fuyama.

Regarding claim 1, Fuyama discloses a radio communications system (Fig. 6) comprising:

a) an intrinsic pavement transmitter and antenna material (Fig. 6, 22; Fig. 6A; i.e. semi-cylindrically domed structure with a radio wave absorbing material and roadside antenna) for conducting radio frequency signals wherein the intrinsic material does not include any conductive wires (Fig. 6A) (col. 4, lines 6-18);

Art Unit: 2614

b) a first transmitter/receiver (i.e. vehicle detector S1; Fig. 6, S1), at a first point along the intrinsic pavement transmitter and antenna material, and in communication with an end-user (i.e. driver of a vehicle) (col. 2, line 65 – col. 3, line 2; col. 3, lines 8-22); and

c) a second transmitter/receiver (i.e. vehicle detector S2; Fig. 6, S2), at a second point along the intrinsic pavement transmitter and antenna material, and in communication with an end-user (i.e. driver of a vehicle); wherein the intrinsic pavement transmitter and antenna material (Fig. 6, 22) conducts radio frequency signals between the first and second transmitter/receiver (Fig. 6: S1, S2) entirely within the pavement material (i.e. semi-cylindrically domed structure covers a wireless communication zone that is shown in Fig. 2), and further wherein there are no conductive wires within the intrinsic pavement material that connect the first transmitter/receiver and the second transmitter/receiver (Fig. 6; col. 4, lines 6-18).

Regarding claim 2, the radio communications system of claim 1, wherein Fuyama discloses the second transmitter/receiver (Fig. 6, S2) is coupled to the end-user with a hard wire (e.g. ETC unit; Fig. 1, 33; Fig. 2) (col. 2, line 65 – col. 3, line 2; col. 3, lines 8-16).

Regarding claim 3, the radio communications system of claim 1, wherein Fuyama discloses the second transmitter/receiver (Fig. 6, S2) is a conductive surface portion of the intrinsic pavement transmitter and antenna material (Fig. 6, 22) (col. 3, lines 17-24; col. 4, lines 7-18).

Regarding claim 4, the radio communications system of claim 1, wherein Fuyama discloses the first transmitter/receiver (Fig. 6, S1) is adjacent to the intrinsic pavement transmitter and antenna material (Fig. 6, 22) (col. 4, lines 7-18).

Regarding claim 5, the radio communications system of claim 1, wherein Fuyama discloses the first transmitter/receiver (Fig. 6, S1) is located in the intrinsic pavement transmitter and antenna material (Fig. 6, 22) (col. 4, lines 7-18).

Regarding claim 6, Fuyama discloses an intrinsic pavement transmitter and antenna material (Fig. 16(a), 51; i.e. radio wave absorbing member on columns of a raised highway), wherein the intrinsic material does not include any conductive wires (col. 6, line 39 – col. 7, line 41), and said pavement comprising a roadway (Fig. 16(a), road surface) (col. 7, line 42 - col. 8, line 8), including:

- a) a suitable wearing course material (i.e. road surface); and
- b) an effective amount of radio frequency conductive material (col. 6, line 39 – col. 7, line 41), sufficient to conduct radio frequency signals, between at least two locations within the pavement (i.e. two support members; Fig. 16(c), 55; col. 7, lines 51-53), such that the radio frequency signals are conducted entirely within the pavement transmitter and antenna material (i.e. radio wave absorbing member on columns of a raised highway covers a wireless communication zone that is shown in Fig. 2) (col. 6, line 39 – col. 7, line 41), and wherein there are no conductive wires within the pavement material that connect the at least two locations within the pavement material (col. 6, line 39 – col. 8, line 8).

Regarding claim 7, the intrinsic pavement transmitter and antenna material of claim 6, wherein Fuyama discloses the radio frequency conductive material is at least one member selected from a group consisting of: radio frequency transmittable polymers, metal shavings, metal dust, and conductive carbons (col. 6, line 39 – col. 7, line 41).

Regarding claim 8, the intrinsic pavement transmitter and antenna material of claim 7, wherein Fuyama discloses the conductive carbon is at least one member selected from a group consisting of carbon black, carbon fiber, graphite and coke breeze (col. 7, lines 7-14).

Regarding claim 9, the intrinsic pavement transmitter and antenna material of claim 7, wherein Fuyama discloses the radio frequency transmittable polymers include: polyacetylene, polyaniline, polypyrrole, polythiophenes, polyethylenedioxythiophene and poly(p-phenylene vinylene)s (col. 6, line 55 – col. 7, line 14).

Regarding claim 10, the intrinsic pavement transmitter and antenna material of claim 7, wherein Fuyama discloses the metal shavings are at least one member selected from a group consisting of: iron, iron alloys, aluminum, aluminum alloys, copper, and copper alloys (col. 6, lines 46-54).

Regarding claim 11, the intrinsic pavement transmitter and antenna material of claim 7, wherein Fuyama discloses the metal dust is at least one member selected from a group consisting of: iron, iron alloys, aluminum, aluminum alloys, copper, and copper alloys (col. 6, lines 46-54).

Regarding claim 12, the intrinsic pavement transmitter and antenna material of claim 6, wherein Fuyama discloses the suitable wearing course material is at least one member selected from a group consisting of: asphalt and concrete (Fig. 16(a), road surface).

Regarding claim 13, the intrinsic pavement transmitter and antenna material of claim 6, wherein Fuyama discloses the conductive material is intermixed with the wearing course material (Fig. 16(a): 52, road surface).

Art Unit: 2614

Regarding claim 14, the intrinsic pavement transmitter and antenna material of claim 6, wherein Fuyama discloses the conductive material and the wearing course material are substantially distinct layers (Fig. 16(a): 52, road surface).

Regarding claim 15, the intrinsic pavement transmitter and antenna material of claim 6, wherein Fuyama discloses an insulating layer proximate the roadway (col. 7, line 56 – col. 8, line 8).

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892 Form.

14. Any response to this action should be mailed to:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Or faxed to:

(571) 273-8300 (for formal communications intended for entry)

Or call:

(571) 272-2600 (for customer service assistance)

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LISA HASHEM whose telephone number is (571)272-7542. The examiner can normally be reached on M-F 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang can be reached on (571) 272-7547. Any inquiry of a general nature or

Art Unit: 2614

relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-2600.

16. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Lisa Hashem/
Examiner, Art Unit 2614
December 20, 2008